Fraud Detection

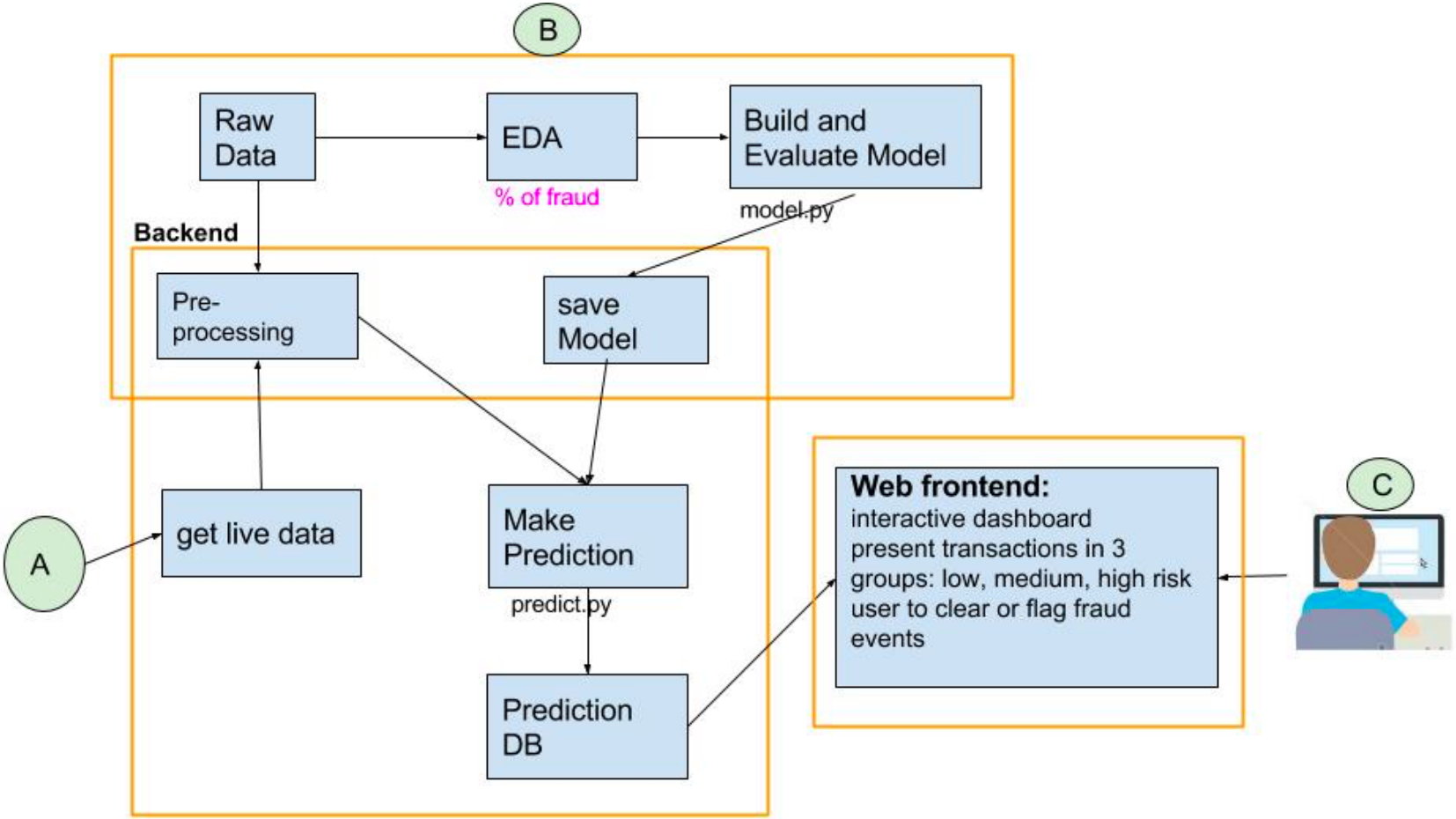
Background

trend of $amount lost due to fraud in the last # months

Overview

E-commerce site to try to weed out fraudsters

- Web based front-end to for non-technical people to
  - list transactions in 3 potential fraud groups: low, medium, high risks
  - allow uses to manual review and clear or flag fraud events
    - detailed information of the event/account to help with manual review
  - visualization of trend
- Predictive model to flag events needing further review (how likely an event likely to be fraud; $ likely to lost)


B
Raw Data
EDA
% of fraud
Build and Evaluate Model
model.py
Backend
Pre-processing
save Model
A
get live data
Make Prediction
predict.py
Prediction DB
Web frontend:
interactive dashboard
present transactions in 3 groups: low, medium, high risk
user to clear or flag fraud events
C

Scope

register your service at POST /register???

accept records /scoe

Flask app: Jinja2

AWS instance

Cost - Benefit Matrix

Actual Class

Predicted Class	**Fraud**	**Not Fraud**
Y (Fraud)	true positive 0	**false positive** **decrease customer trust** (manual labor followup; customer satisfaction) $$?
N (Not Fraud)	**false negative** **cost money** **$$$ of merchandize**	true negative 0

compared to catching all fraud

Cost - Benefit Matrix

Actual Class

Predicted Class	Fraud	Not Fraud
Y (Fraud)	true positive Benefit (recover the transaction)	false positive decrease customer trust? Cost (manual labor followup; customer satisfaction)
N (Not Fraud)	false negative $$$ of merchandize	true negative 0

compared to current situation(no fraud detection pipeline)